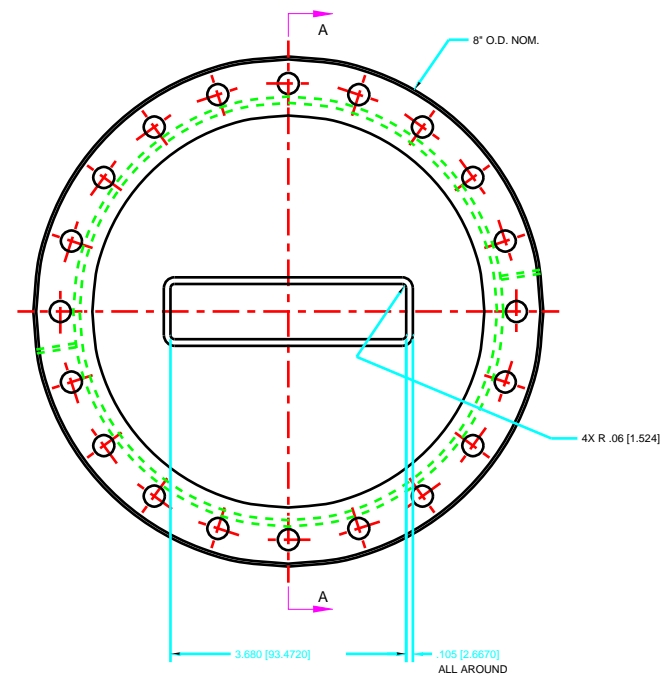



SECTION A-A



NOTES:

1. MODIFY FROM PURCHASED PART:  
ROTATABLE FLANGE; MDC #100030
2. WHEN MACHINING VACUUM PART, USE OF SILICONE  
AND SULPHUR-BASED CUTTING FLUIDS IS PROHIBITED.  
USE ONE OF THE FOLLOWING:  
A) CIMCOOL 5 STAR 49  
B) TRIM SOL
3. THIS IS A UHV PART, ELECTROPOLISHING IS NEEDED  
BEFORE WELDING. PRIOR TO ELECTROPOLISHING, THE PART  
NEEDS TO GO THROUGH A MULTIPLE STEP CLEANING  
PROCESS INVOLVING DEGREASING, WASHING AND DRY  
NITROGEN BLOWDOWN.
4. KEEP THE PART CLEAN, AND WRAP FOR UHV PACKING  
WITH ALUMINUM FOIL.
5. DIMENSIONS IN [ ] ARE MILLIMETERS AND FOR REFERENCE ONLY.

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| BYM | CHANGE DESCRIPTION |  | BY | CHD | DATE |
|     | REVISIONS          |  |    |     |      |

| ITEM#  |         | DWG. & ELECTRONIC FILE No.  |  | NOMENCLATURE OR DESCRIPTION   |      |              |      | MATERIAL / SPEC   |  | QTY  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
|--|---------|---|--|---|------|--------------|------|---|--|--|------|--------|---------|--|------|---|------|----------------|------|-------|-------------------------------|------------------------------|-----------------------|-------------------|
| <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;"> <p>UNLESS OTHERWISE SPECIFIED:<br/>ALL DIMENSIONS ARE IN INCHES</p> <p><b>TOLERANCES:</b></p> <table border="1"> <thead> <tr> <th>FINISH</th> <th>ANGULAR</th> </tr> </thead> <tbody> <tr> <td>3X . . . . .</td> <td>.015</td> </tr> <tr> <td>3X . . . . .</td> <td>.010</td> </tr> <tr> <td>XXXX . . . . .</td> <td>.005</td> </tr> </tbody> </table> <p>SURFACE ROUGHNESS 125</p> </div> <div style="width: 40%; text-align: center;"> <p>ELECTRONIC FILE NUMBER</p> <p><b>A09903</b></p> </div> <div style="width: 20%; text-align: center;">  <p><b>ARGONNE NATIONAL LABORATORY</b></p> </div> <div style="width: 20%; text-align: right;"> <p>THIS DRAWING IS THE PROPERTY OF</p> </div> </div> |         |   |  |   |      |              |      |   |  |  |      | FINISH | ANGULAR | 3X . . . . .   | .015 | 3X . . . . .  | .010 | XXXX . . . . . | .005 |       |                               |                              |                       |                   |
| FINISH   | ANGULAR |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| 3X . . . . .   | .015    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| 3X . . . . .   | .010    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| XXXX . . . . .   | .005    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
|  |         | <table border="1"> <tr> <td>DRAWN BY</td> <td>DATE</td> </tr> <tr> <td>CHET KRAKORA</td> <td>4/93</td> </tr> </table>   |  | DRAWN BY  | DATE | CHET KRAKORA | 4/93 | <table border="1"> <tr> <td>CHEF DESIGN ENGINEER</td> <td>DATE</td> </tr> <tr> <td></td> <td></td> </tr> </table> |  | CHEF DESIGN ENGINEER   | DATE |        |         | <table border="1"> <tr> <td>TITLE</td> </tr> <tr> <td><b>ADVANCED PHOTON SOURCE</b></td> </tr> <tr> <td><b>K2 BM FIRST COLLMATOR</b></td> </tr> <tr> <td><b>VACUUM CHAMBER</b></td> </tr> <tr> <td><b>END FLANGE</b></td> </tr> </table> |      |   |      |                |      | TITLE | <b>ADVANCED PHOTON SOURCE</b> | <b>K2 BM FIRST COLLMATOR</b> | <b>VACUUM CHAMBER</b> | <b>END FLANGE</b> |
| DRAWN BY   | DATE    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| CHET KRAKORA   | 4/93    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| CHEF DESIGN ENGINEER   | DATE    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
|  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| TITLE  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| <b>ADVANCED PHOTON SOURCE</b>  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| <b>K2 BM FIRST COLLMATOR</b>   |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| <b>VACUUM CHAMBER</b>  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| <b>END FLANGE</b>  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
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| CHET KRAKORA   | 4/93    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| PROJECT MGR  | DATE    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
|  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
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|  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
|  |         | <p>MATERIAL</p> <p><b>SEE NOTE 1</b></p>  |  | <table border="1"> <tr> <td>SCALE</td> <td>size</td> </tr> <tr> <td>1=1</td> <td></td> </tr> </table> |      | SCALE        | size | 1=1   |  | <table border="1"> <tr> <td>SHEET</td> <td>of</td> </tr> <tr> <td>1</td> <td>1</td> </tr> </table> |      | SHEET  | of      | 1  | 1    | <p>DRAWING NUMBER</p> <p><b>P4102020102-210102-00</b></p> |      |                |      |       |                               |                              |                       |                   |
| SCALE  | size    |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
| 1=1  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |
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| <p>NOTE: NO SCALE DRAWING</p>  |         |   |  |   |      |              |      |   |  |  |      |        |         |  |      |   |      |                |      |       |                               |                              |                       |                   |